



BALTIC REGION HERITAGE COMMITTEE

Good practices on built heritage conservation/restoration

S:t Görans gymnasium, Stockholm, Sweden.

Title of the heritage building

S:t Görans gymnasium (S:t Göran high school), Stockholm. Completed 1960 and rebuilt 2015-18 to accommodate student housing and a preschool.

Main idea/goal of the intervention.

The conversion from high school to student housing created opportunities for preservation and long-term management. The building was in need of restoration and conservation, including exterior walls and windows and interiors as heating, ventilation and electricity. An initial position and goal was that historically valuable parts of the building and its environment should be preserved.

Location.

The main building and the preschool are located in the centre of Stockholm, at the corner of S:t Göransgatan and Mariebergsgatan. It is an urban area with housing, offices and institutions, such as hospitals and schools.



S:t Görans gymnasium Foto: Åke E:son Lindman, Wikimedia commons, 2014.

Functions.

The building was inaugurated in 1960 as a household- and sewing school for girls and was planned for approximately 1000 students. In the lower floors, there were common areas such as café, library, music hall and an expedition while the classrooms were situated on the upper floors. The ground floor, towards S:t Göransgatan, housed different types of shops.

Today, the building is mainly used as a residential building for students. A total of 16,900 sqm has been converted into 245 small student apartments, a preschool and a few other premises.

Owner/manager.

Svenska Bostäder – a municipal housing company owned by the City of Stockholm.

Heritage category.

The building's historical value is protected according to the Planning and Building Act, a legislation that is handled at the municipal level. According to the detailed development plan from 2014, the use must be adapted to the historical values of the buildings. There is a demolition prohibition and regulations regarding the exterior, the building's frame and the lay out in order to protect the building's cultural and historical value. The structure of the courtyard and the original character and structure of the green areas have also regulations regarding protection. Further, the regulations state that the building must be maintained and renovated with methods and materials adapted to the building and performed in such a way that the historical value does not decrease. Maintenance work requires a building permit.

Stockholm City Museum has evaluated the historical value of the built environment to the highest degree of classification saying that the environment has a particularly high cultural-historical value. This classification is not a protection but a designation of cultural-historical values.

There is also an ongoing matter of listing the building according to the Cultural Environment Act, which is a state level protection and handled by the County Administrative Board of Stockholm. The case has not yet been decided.

Short historical background.

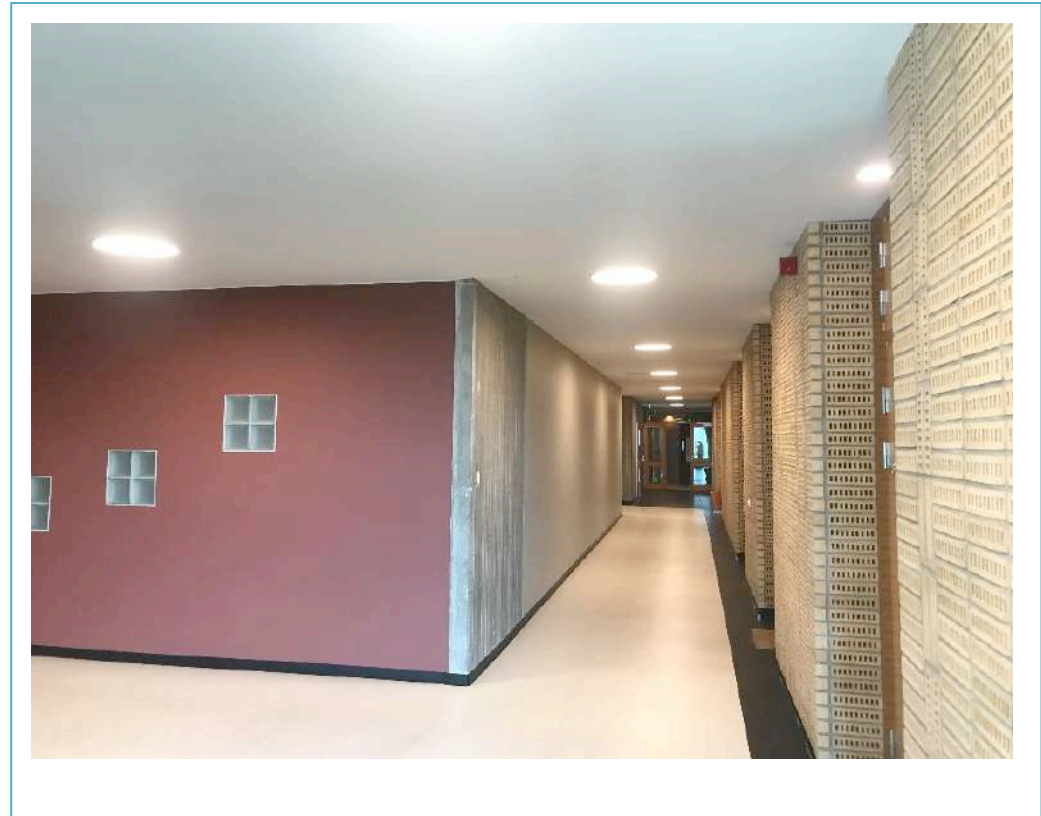
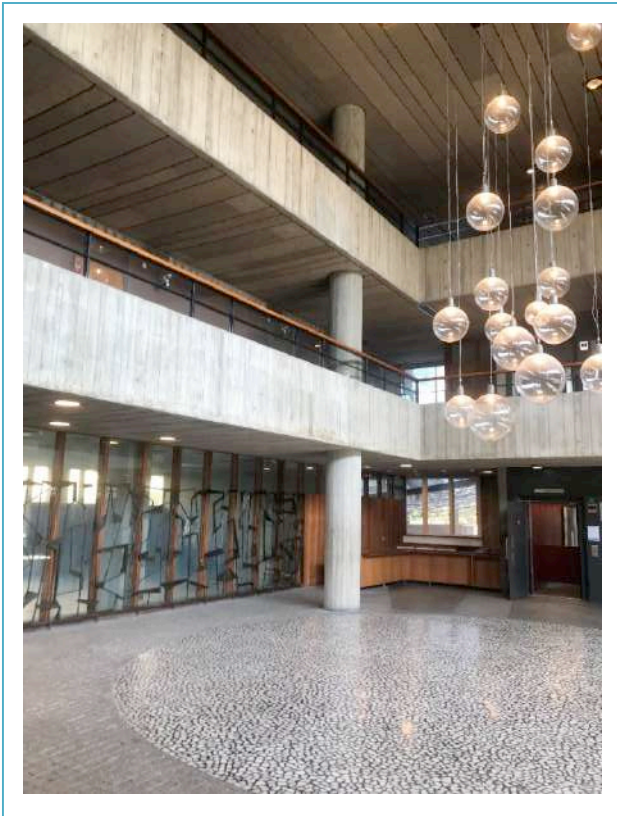
The City of Stockholm commissioned Leoni and Charles-Edouard Geisendorf to design a new household- and sewing school in 1956. To accommodate the requested premises, two building- volumes were designed in the form of one higher and one lower building that were placed on top of each other in an L-formation. In this way, an area could be reserved for the schoolyard. Landscape architect Walter Bauer designed the outdoor environment. A detached building that housed a dormitory and a meeting room were planned but were never realized. S:t Görans functioned as a practical high school until 2008. After the school operations ceased, the building stood empty, which led to a certain decay.

Leoni Geisendorf was the chief architect of S:t Görans gymnasium. She was born in Switzerland, educated at the University of Technology in Zürich and practiced at Le Corbusier's architectural office in Paris. In 1938 she moved to Sweden and in the early 1950:s she started an architectural firm in Stockholm together with her husband Charles-Edouard. Her work is generally characterized by great care regarding details in the execution. Several of Geisendorf's works are also characterized by the careful handling of concrete. In S:t Görans gymnasium the architect's very consciously designed raw concrete surfaces in the facade elements, the balconies and the pillars have a decisive significance for the building's character and cultural-historical value. The building occupies a special position in Swedish architecture for its consistency, quality and its strong architectural expression and its distinct connection to "the international style".



(Left): The gym on the topfloor of the building. Photo: Cathrine Mellander Backman, RAÄ, 2021.

(Right): The kitchen in one of the apartments used for practical training, today turned into a museum. The materials and the quality in performance characterize the building. Photo: Cathrine Mellander Backman, RAÄ, 2021.



(Left): The raw concrete, the decorative ironwork, the luminaire and the floor and ground covering in the three floors high open entrance hall, all contribute to the building's unmistakable character. Photo: Eva Dahlström Rittsél, RAÄ, 2021.

(Right): An apartment corridor with new brick walls in yellow hollow brick. Photo: Eva Dahlström Rittsél, RAÄ, 2021.

Main issues.

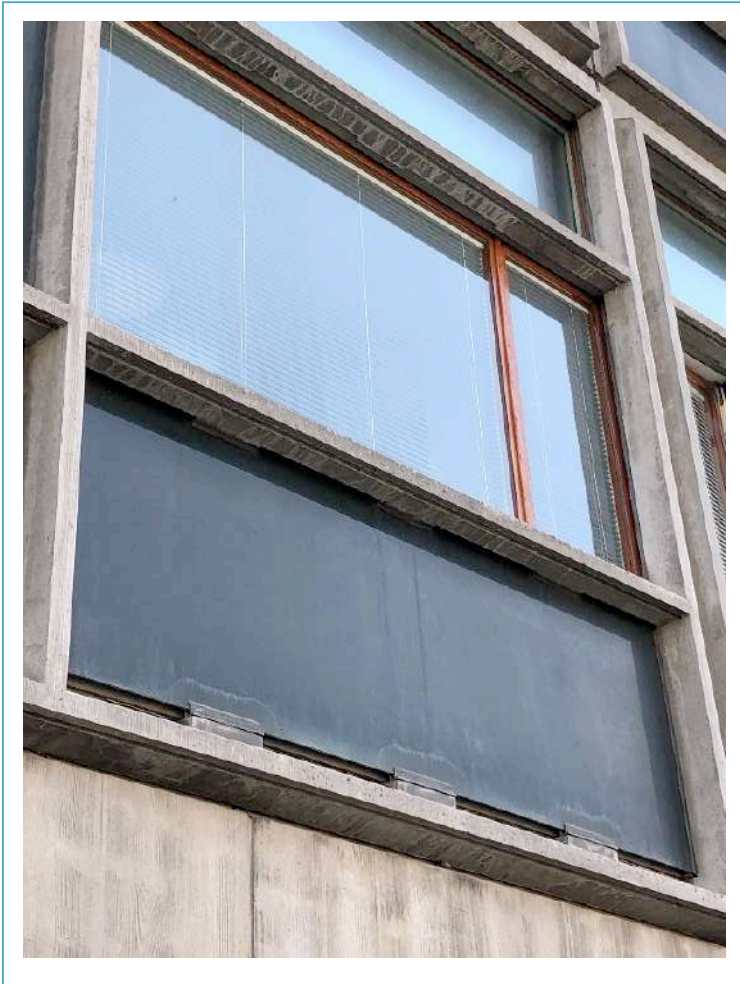
At an early stage of the rebuilding and restoration process, an antiquarian investigation was carried out to describe the history of the environment and account for the cultural-historical values. In addition, an cultural heritage assessment was made for the planned changes. Antiquarian expertise participated throughout the project. The building has a frame system with supporting pillars that allows an open and flexible floor plan and a curtain wall facade. The building has generous public areas on the ground floor with a large and open entrance hall with adjacent to the common yard.

At an early stage the landscaping, facades, pillars, terraces and roofs were identified as the most historically valuable parts of the exterior. In the interior, the entrance hall, the well-preserved apartments and the stairwell were estimated to be of high historical value. In these parts, the only work that has been done is restoration and conservation. In the other parts, such as the former classrooms, major interventions was allowed as these areas have been converted into small apartments. In addition to the works made in the interior mentioned above, colours on walls and ceilings were also restored.

An important goal of the work was to preserve as much of the original materials as possible and, where measures were necessary, to carry out the work with great care and adaptation to the original materials and methods. When the restoration began, the building had been empty for a number of years and the maintenance had been neglected. The damage was inventoried, photo-documented and categorized into three levels. The facades with prefabricated concrete elements with glass had extensive damage as well as the balconies. Other interventions that needed to be carried out was to restore plaster damage and leaking roofs and secure the stairs and the roof terraces. The windows, with low noise- and energy values, had to be adapted to standards of today.



*Injuries on the concrete elements and on the balconies in concrete.
Photo: Sven Olof Ahlberg.*



The facade with concrete elements, glass and windows. Photo: Cathrine Mellander Backman, RAÄ, 2021.

Research.

The investigations carried out before the restoration were a cultural heritage impact assessment (Reichmann Antikvarier AB, 2013), a care- and maintenance plan, a quality programme for refurbishment, an investigation regarding the external environment (City Planning Office, Stockholm, 2013) and various technical investigations, especially regarding the reinforced concrete. The cultural heritage assessment pointed out that the greatest consequence for the cultural heritage values was the changed function, from school to student housing. The new building, proposed to replace the never-executed auditorium, was deemed to contribute to a more cohesive environment as the open square appeared more clearly. The new entrance from Mariebergsgatan was judged to affect both the architectural and the historical value of the building. The internal measures in form of adaptation to housing and new floor plans had a negative impact on the document value. The cultural heritage impact assessment, the care- and maintenance plan and the quality programme became important tools for the work carried out in the redevelopment of the building. The technical examination showed that the reinforced concrete had many injuries, but a goal of the work was nevertheless to preserve as much as possible from the original material.

Conservation/renewal project (author(s), complexity, duration, institutions involved, other agents or circumstances, disagreements and compromises if there were any, decision making regarding conservation/restoration techniques and materials, budget).

In 2012, the Stockholm City Planning Board decided to start the planning work for S:t Görans gymnasium. The City of Stockholm, the developer Svenska Bostäder and Södergruppen arkitekter developed a joint quality programme with the aim of coordinating and securing architectural qualities in the building and land design. The programme would ensure that both the refurbishment and the new building were given a high architectural quality through careful design. The quality programme is part of the zoning plan proposal and led to the adopted plan. The programme would provide support in coordination, planning, building permits and implementation. Specialist expertise has been used in antiquarian, construction, installation, land- and conservation issues. Other actors involved in the work included Reichmann antikvarier, AIX-arkitekter och antikvarier, Nyrén's arkitektkontor (landscape architect), AB Stenkonsivering Väst and antiquarian and concrete specialist Sven-Olof Ahlberg. The total cost of the project amounted to 360 000 000 (SEK). The costs for the restoration of the apartments for practical training (today museum) was financed through government grants



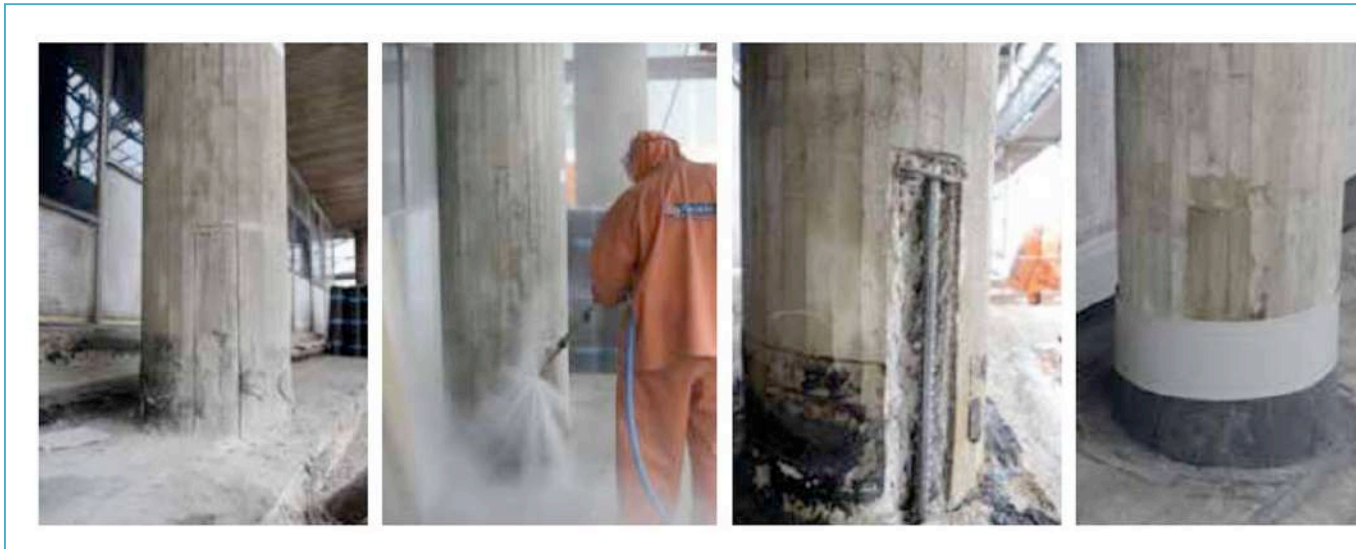
(Left): The new building with apartments, replacing the never executed auditorium by the inner square. Photo: Cathrine Mellander Backman, RAÄ, 2021.



(Right): The new entrance from Mariebergsgatan. Photo: Cathrine Mellander Backman, RAÄ, 2021.

Implementation of the conservation works.

The building is constructed of reinforced concrete. Since both the concrete and the binder in the form of cement have a large environmental impact, it was important from a sustainability perspective (lifecycle assessment, LCA) in this project to ensure that already used resources regarding building materials could be preserved. An important goal was also to preserve the raw character of the moulded concrete walls and that this character also could be adapted to the concrete structure of the new exterior entrance from Mariebergsgatan. Another challenge was to take advantage of the floor plan and change it from classrooms to apartments. New installations and pipework were hidden above the inner-roofs of the building and it is worth noting that the inner-roof of the large central stairwell is new, but carried out in the same material and by the same supplier as at the time of the construction in the 1960s. An important position was also that all surface layer work should be retouched rather than renovated. A major challenge was the problems with rusting reinforcement and the ability to repair about 400 injuries. The visible damage to the concrete elements of the façade was repaired. With water blasting, the concrete elements of the façade were released so that reinforcement and ballast became visible and could be restored. The restoration of the concrete surfaces of the façade was very demanding, where bricklayers, sculptors, conservators and antiquarians all worked to recreate a surface that on an overall level resembled the original. The exterior today preserves large parts of the original concrete and on those parts it is restored, the surface does not look new, this in accordance with the architect's intentions.



Restoration of the pillars, water blasting and casting of new concrete. Photo: Sven Olof Ahlberg.



Tre bilder från lagningstillfället. De djupa lagningarna byggdes upp med betonglagningsbruk i flera påslag, varefter detaljustering av ytorna tog vid. Vid vissa lagningar infogades ny sjösten i fraktioner och kulörer, som stämde med omgivande ytor. På detta vis skapades en tillfredställande estetisk överensstämmelse mot omgivande betong.



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Conservation of concrete window. Photo: Sven Olof Ahlberg.

Results/current situation.

The cultural heritage values have been affected by the change in function, but since great care has been taken to preserve large parts of the building's exterior as well as several common premises in the interior and since the design of new additions has been done with high quality, the cultural and architectural values today are nevertheless high. The building still constitutes an important exponent of "the international style" in a Swedish context.

Evaluation.

S:t Görans High School is attributed to very high architectural and cultural historical values. The refurbishment and conservation work has been carried out with a high awareness of the importance of these values and is an educational example of how to work with the materials typical of late modernism, including reinforced concrete structures. The existing concrete has been largely preserved and the goal of an extended life cycle perspective has thus been achieved while maintaining the architect's original vision. The work is in line with the statement made by the Baltic Region Heritage Committee in connection with the conference report *From Postwar to Postmodern – 20th Century Built Cultural Heritage* in 2016. The project has shown how different competences have worked together to ensure that today's high technical and functional requirements can be reconciled with requirements for the preservation of cultural-historical values. The project and the solutions chosen are a good example of best practice regarding the monumental architecture of the postwar period.

Literature.

Vallgossen 14 i Stockholm, kvalitetsprogram. Kvalitetsprogram för ombyggnad och tillbyggnad samt yttre miljö tillhörande detaljplaneförslag Dp 2012-02440, Åman, Nina, Stadsbyggnadskontoret Stockholm 2013-11-13.

Kulturhistorisk konsekvensanalys, ändrad användning Kv. Vallgossen 14, f.d. St Görans gymnasium. Detaljplaneförslag S-Dp2012-02440-54, Reichmann antikvarier AB, 2013.

Vallgossen 14 Antikvarisk slutdokumentation Kulturbyggnadsbyrå i Sverige AB Sven Olof Ahlberg, 2019.

"S:t Görans gymnasium", Modernism at risk: Slutrapport maj 2013, Kungl. konsthögskolan, Stockholm, 2013.

Lauri, Tomas, "Ett studentrum med utsikt, Arkitektur, nr 5, 2019.